

Work Order ID 57960

April 21, 2010 9:19:03 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Item Name: Replacement Skidtube

Stop



Start Date: 21/04/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 28/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

RP

Date: *10-4-21*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DOCUMENT CONTROL

DC

0.00

Memo

Document Control

Photocopy bluefile & type labels per PPP D206-642-541 CHG003

N/A *KJ*

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

****VERIFY AND INSPECT THE MATERIAL PRIOR TO USE****

1- Bend FWD end of tube using bend prog D3274 FWD dwg D3274, cut fwd end of tube with saw table setup D3274.

DP 10-5-4

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and OSI004

AR Aluminum Rod Batch: m11250 / m112860

BE 10/05/05

4- grind fwd cap weld on top surface only

BE 10/05/05

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.
Drill 3/16" pilot holes as per Dwg D3274

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

DP 10-5-7

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

1 - - Arm 10-5-08

130

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

8/10/05/14

140

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8/10/05/14

40

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Draw Number | Draw Rev. | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|----------------|--------------|--------------|---------------|---------------|------------------|----------------|
| 150 | Skidtubes | 0.00 | | | | | | | |
| Skidtubes | Memo | 0.00 | | | | | | | |
| Skidtubes | 1-Open Ø0.313" and 0.375" crossbolt spacer holes using DT8743 as per Dwg D3274 | | | | | | | | |
| | 2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube | | | | | | | | |
| | 3-Bond web in place as per Dwg D3274 & QSI 015. A/R <input type="checkbox"/> Sikaflex-291 <input checked="" type="checkbox"/> <u>M113435</u> <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> <u>10-11-30</u> <input type="checkbox"/> Start: <input type="checkbox"/> <u>10-5-11</u> <input type="checkbox"/> Time: <input type="checkbox"/> <u>1pm</u> <input type="checkbox"/> Finish: <input type="checkbox"/> _____ <input type="checkbox"/> Time: <input type="checkbox"/> _____ (Adhere for 12 hours) | | | | | | | | |
| 160 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| QC | Memo | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

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(1) Ø BE1905/18

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Cust Item ID:

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position.

M 10/5/18

2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2
OPEN HOLES TO .297" . Deburr

3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD
END OF TUBE
DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES)
REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES

AM 10-05-2010

4- Countersink crossbolt spacer holes as per Dwg D3274

5- prepare for welding

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

h=3.0
L=4.8

0.00

10/5/20

4

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod
A/R ☐ Aluminum Rod ☒ M112507

BE 10/05/25

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

Q.M 10-05-25

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

S. 06/05/25

①

Quality Control

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Sulox

FD

Quality Control

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

RE-ALOWINE 0 PAR09-043

① BR 105-1

Hand Finishing

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

11114207

⇒ 10/06/01

1 0

Powder Coating

START TIME: 3:15 pm
OVEN TEMPERATURE: 320°F
FINISH TIME: 3:45 pm

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Cust Item ID:

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Draw Number | Draw Rev. | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|--------------------------------|--|----------------------|----------------|--------------|--------------|----------------|---------------|------------------|----------------|
| 240 | QC3- Inspect Part Finish | 0.00 | | | | | | | |
| QC Quality Control | Memo | 0.00 | | | | <i>MV</i> | <i>10</i> | <i>06</i> | <i>14</i> ① |
| 250 | HandFinishing | 0.00 | | | | | | | |
| HandFinish Hand Finishing | <p>Memo</p> <p>1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets. A/R <input type="checkbox"/> N/A <input type="checkbox"/> LPS-3 <input type="checkbox"/> <i>104251</i></p> <p>2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a A/R <input type="checkbox"/> <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> <i>13519</i> <input type="checkbox"/> <input type="checkbox"/> Sikaflex expire date: <input type="checkbox"/> <i>10/11</i></p> | 0.00 | | | | <i>MV</i> | <i>10</i> | <i>06</i> | <i>14</i> ① |
| 260 | QC5- Inspect part completeness to step on W/O | 0.00 | | | | | | | |
| QC Quality Control | <p>Memo</p> <p>Inspect Nut Plate & Inserts</p> | 0.00 | | | | <i>8/06/14</i> | <i>10</i> | <i>06</i> | <i>14</i> ① |

①

April 21, 2010 9:19:03 AM



Item ID: D206-642-541

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**Setup Start**

Item Name: Replacement Skidtube

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Start Date: 21/04/2010 **Start Qty:** 1.00

**Cust Item ID:**

Required Date: 28/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

[illegible]

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Item ID: D206-642-541

Accept



Setup Start



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Stop



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Cust Item ID:

Required Date: 28/04/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

290



Packaging

Identify as per dwg & Stock Location: _____

0.00

Memo

POP
57876

0.00

Packaging

10/06/17
MF

300



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/06/17
MF
10-6-17

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Work Order ID: 57960

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Date: 21/04/2010

Required Date: 28/04/2010

Start Qty: 1.00

Required Qty: 1.00

D2600-1-190

Manufactured No

110

Each

44.0000

1.0000



Extrusion Round 3" 206

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

47575

110

Each

158.0000

1.0000

D3285-1

Manufactured No



Cap

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

47635

52511

52647

158

9

74

75

150

Each

0.0000

1.0000

D3282-041

Manufactured No



Float Web (206L/407)

D2649

Manufactured No



Cross Bolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

55000

85

85

B 58545

x 12

BE 10/05/25

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Page 2

Work Order ID: 57960



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 21/04/2010

Required Date: 28/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
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 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3275-1 Manufactured No 190 Each 20.0000 12.0000



Crossbolt Spacer



Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

LG

53453

20

20

250

Each

2,117.000 2.0000



B 57513

(x12)

BE 10/05/25

CR3212-4-03

Purchased

No



Cherry Rivet

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST311

2117

111359

92

112314

125

114436

1900

250

Each

75.0000 1.0000



B# 114450

MA 10-06-14

D3415-041

Manufactured

No



Nut Plate

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST056

75

33842

75

MA 10-06-14

April 21, 2010 9:19:08 AM

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Start Date: 21/04/2010

Required Date: 28/04/2010

Start Qty: 1.00

Required Qty: 1.00

CCR264SS3-3

Purchased

No

250

Each

724.0000 2.0000



Cherry Rivet

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST311

724

111548

4

112314

4

113539

92

113973

624

ALS4-1032-130

Purchased

No

250

Each

1,912.000 78.0000



Insert

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST282

1912

110511

40

114407

1872

B# 114654

MM 10.06.14

MM 10.06.14

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IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3536-15

Manufactured No

270

Each

19.0000

1.0000



Gasket

B# 59238

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

19

51600

7

56055

12

D3536-23

Manufactured No

270

Each

16.0000

1.0000



Gasket

B# 58819

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

4

53468

4

Main Warehouse

FP011

12

57529

12

MM 10.06.14

MM 10.06.14

April 21, 2010 9:19:08 AM

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Start Date: 21/04/2010

Required Date: 28/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3536-35 Manufactured No 270 Each 18.0000 1.0000



Gasket

B# 58637

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP | 6 | |
| 51628 | 6 | |
| Main Warehouse | | |
| FP012 | 12 | |
| 57530 | 12 | |

MM 10-06-14

D3536-39 Manufactured No 270 Each 11.0000 1.0000



Gasket

B# 58215

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP | 11 | |
| 48161 | 1 | |
| 51637 | 10 | |

MM 10-06-14

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IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D3535-15

Manufactured No

270

Each

14.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

14

53462

4

56053

10

D3535-35

Manufactured No

270

Each

16.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

5

51608

5

Main Warehouse

FP018

11

57528

11

MM 10.06.14

MM 10.06.14

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Start Date: 21/04/2010

Required Date: 28/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3535-39

Manufactured No

270

Each

9.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

9

51619

9

D3535-23

Manufactured No

270

Each

24.0000

1.0000



Wearshoe

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

11

53467

1

56054

10

Main Warehouse

FP21

13

57730

13

MM 10-06-14

MM 10-06-14

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Start Date: 21/04/2010

Required Date: 28/04/2010

Start Qty: 1.00

Required Qty: 1.00

D3537-3 Manufactured No 270 Each 24.0000 1.0000



Wearpad

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP 2

35697 2

Main Warehouse

FP17 22

57512 22

MM 10.06.14

D3537-1 Manufactured No 270 Each 51.0000 9.0000



Wearpad

Warehouse Loc Qty Loc Code
Location

Main Warehouse

FP 9

55465 9

Main Warehouse

FP17 42

57510 42

MM 10.06.14

AN960C10L Purchased No 270 Each 0.0000 80.0000



washer

57510

B# 114341

MM 10.06.14

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 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

AN960C416

Purchased No

270 Each

376.0000 1.0000



washer



nm/ 10.08.14

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST346

376

~~100993~~

376

D3672-1

Manufactured No

270 Each

1,581.000 2.0000



Phenolic Washer



nm/ 16.08.14

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST077

1581

47628

81

51674

500

52505

1000

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Page 10

Work Order ID: 57960



Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 21/04/2010

Required Date: 28/04/2010

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 270 Each 1,799.000 80.0000



BOLT



MM 10-06-14

13# 114859

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| ST350 | 1799 | |
| 114103 | 501 | |
| 114108 | 300 | |
| 114330 | 498 | |
| 114416 | 500 | |

AN4C5A Purchased No 270 Each 533.0000 1.0000



BOLT



MM 10-06-14

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| ST346 | 533 | |
| 110552 | 33 | |
| 112243 | 500 | |

Picklist Print

April 21, 2010 9:19:08 AM

Page 11

Work Order ID: 57960

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 21/04/2010

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 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC

Start Qty: 1.00

Required Qty: 1.00

D2646 Manufactured No 270 Each 32.0000 1.0000



Aft Cap

B# 57332

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| FP6 | 28 | |
| 52663 | 28 | |
| Main Warehouse | | |
| fp7 | 4 | |
| 52663 | 4 | |

M/ 10.06.14

D3413-1 Manufactured No 270 Each 31.0000 1.0000



Ring

B# 58524

| <u>Warehouse</u> | <u>Loc Qty</u> | <u>Loc Code</u> |
|------------------|----------------|-----------------|
| <u>Location</u> | | |
| Main Warehouse | | |
| ST473 | 31 | |
| 51586 | 8 | |
| 53446 | 23 | |

M/ 10.06.14

DART

RELEASED

07.02.12

DEO ATTACHED

| | | | |
|------------------|----------------|--|------------------------|
| DESIGN CP | DRAWN BY PH | DART AEROSPACE USA, INC. PORT HADLOCK, WA | |
| CHECKED # | APPROVED # | DRAWING NO. D3274 | REV. D SHEET 1 OF 4 |
| DATE 06.12.19 | | TITLE SKIDTUBE ASSEMBLY | SCALE NTS |
| A | 04.03.15 | NEW ISSUE | |
| B | 04.08.09 | MOVE SADDLE HOLE: 42.14 WAS 42.76 | |
| C | 05.03.16 | ADD -043; NEW INSERTS | |
| D | 06.12.19 | NEW INSERTS, SS WEARSHOE + GASKET | |

| Qty -041 | Qty -043 | Part Number | Description |
|-------------|-------------|---------------|---|
| X | | D3274-041 | SKIDTUBE ASSEMBLY |
| | X | D3274-043 | SKIDTUBE ASSEMBLY |
| 1 | 1 | D2600-1-240 | EXTRUSION |
| 1 | 1 | D2646 | AFT CAP |
| 12 | 12 | D2649 | CROSS BOLT SPACER |
| 12 | 37 | D3275-1 | CROSS BOLT SPACER |
| 1 | 1 | D3282-041 | FLOAT WEB |
| 1 | 1 | D3285-1 | CAP |
| 1 | 1 | D3413-1 | RING |
| 1 | 1 | D3415-041 | NUT PLATE |
| 1 | 1 | D3535-15 | WEARSHOE |
| 1 | 1 | D3535-23 | WEARSHOE |
| 1 | 1 | D3535-35 | WEARSHOE |
| 1 | 1 | D3535-39 | WEARSHOE |
| 1 | 1 | D3536-15 | GASKET |
| 1 | 1 | D3536-23 | GASKET |
| 1 | 1 | D3536-35 | GASKET |
| 1 | 1 | D3536-39 | GASKET |
| 9 | 9 | D3537-1 | WEARPAD |
| 1 | 1 | D3537-3 | WEARPAD |
| 78 | 78 | ALS7-1032-130 | INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130) |
| 80 | 80 | AN3C4A | BOLT |
| 1 | 1 | AN4C5A | BOLT |
| 1 | 1 | AN960C416 | WASHER |
| 80 | 80 | AN960C10L | WASHER |
| 2 | 2 | CCR264SS3-3 | RIVET |
| 2 | 2 | CR3212-4-03 | RIVET |
| 2 | 2 | NAS1515H3L | WASHER |

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UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

NO. 57960

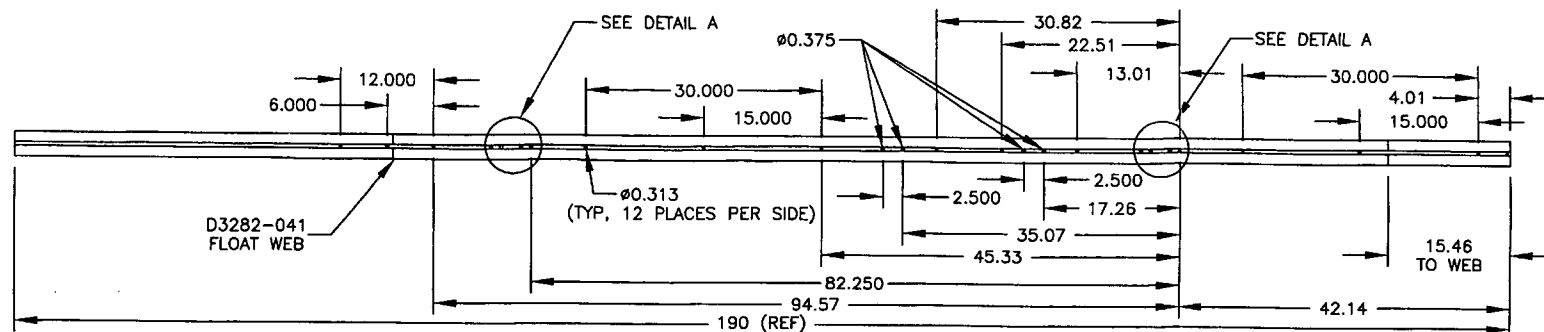
GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

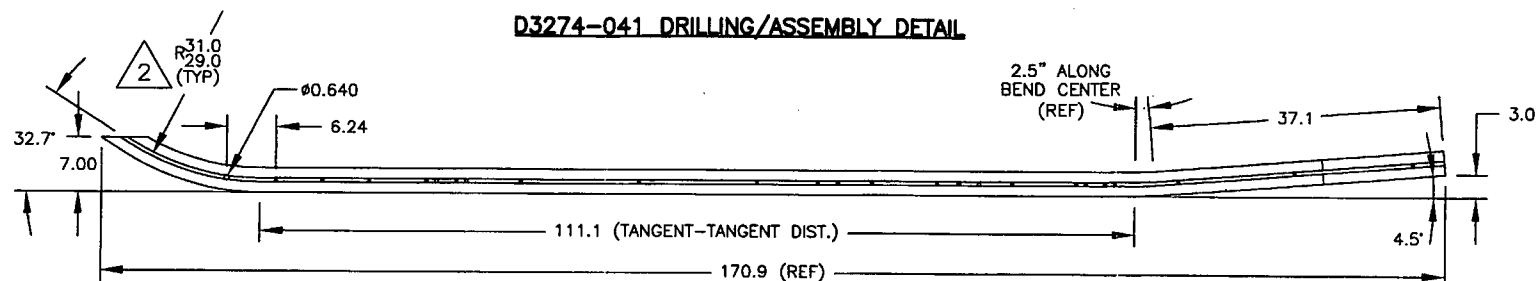
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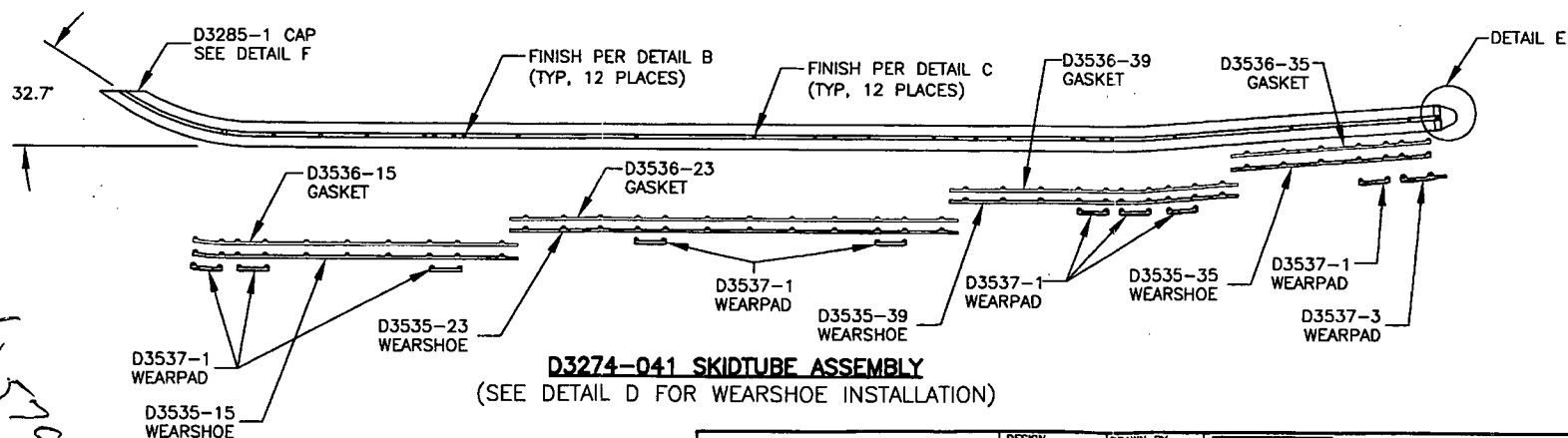
DEO ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

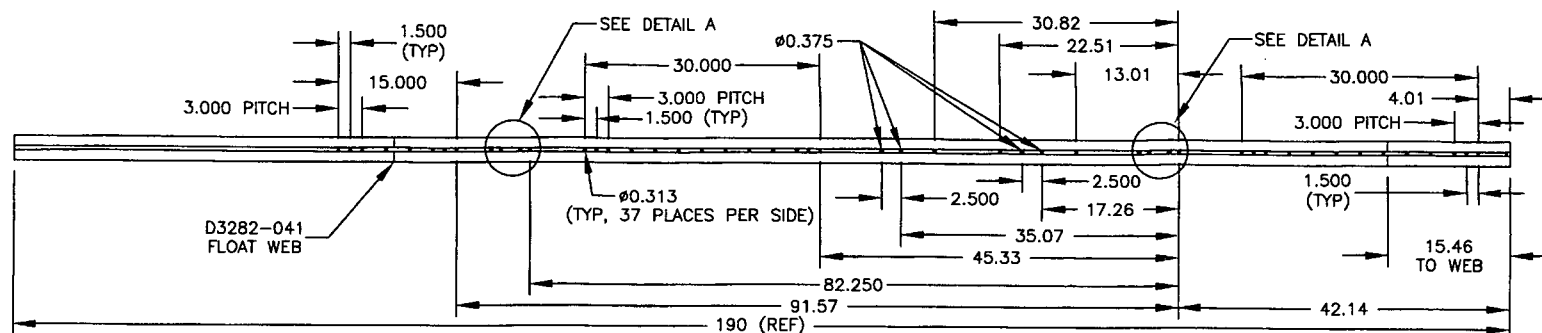
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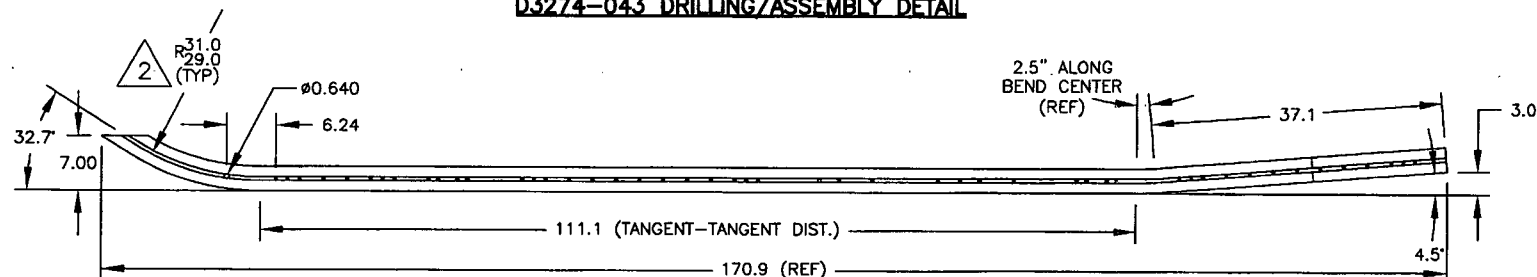
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|---------|----------|----------|-------------------|--|--------------|
| DESIGN | CP | DRAWN BY | PH | DART DART AEROSPACE USA, INC. PORT HADLOCK, MA | REV. D |
| CHECKED | # | APPROVED | # | DRAWING NO. D3274 | SHEET 2 OF 4 |
| DATE | 06.12.19 | TITLE | SKIDTUBE ASSEMBLY | SCALE | 1:15 |

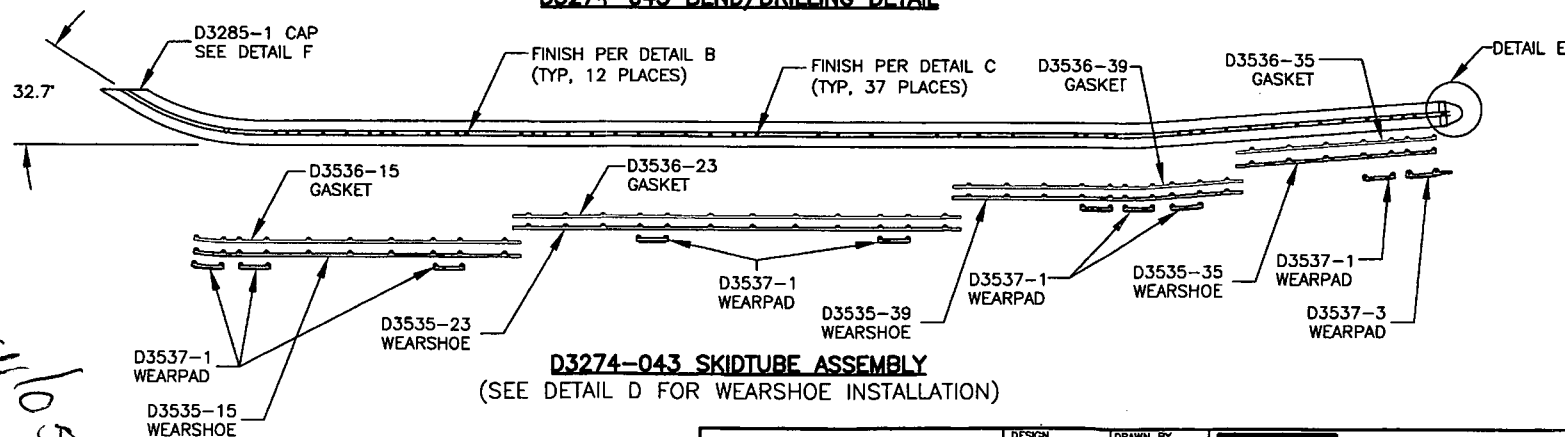
DEO ATTACHED



D3274-043 DRILLING/ASSEMBLY DETAIL



D3274-043 BEND/DRILLING DETAIL



D3274-043 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

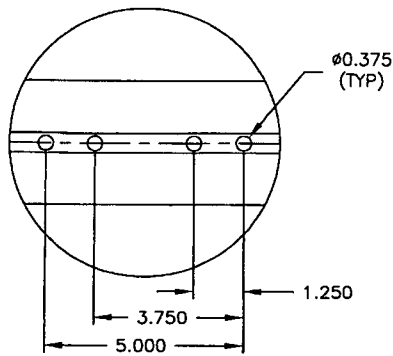
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07.02.12

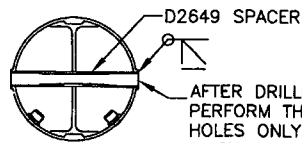
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| | | CHECKED | APPROVED | D3274 | SHEET 3 OF 4 |
| | | DATE | | TITLE | SCALE |
| | | 06.12.19 | | SKIDTUBE ASSEMBLY | 1:15 |

DETAIL A: DRILL DETAIL

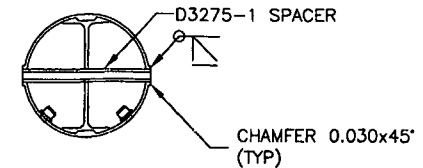


DETAIL B FOR $\phi 0.375$ HOLES ONLY

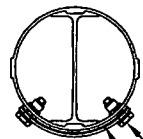


- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR $\phi 0.375$
HOLES ONLY:
1. CHAMFER HOLE $0.030 \times 45^\circ$
 2. INSERT D2649 SPACER
 3. WELD INTO PLACE AND GRIND FLUSH
 4. C'BORE TO $\phi 0.313 \times 0.75$ DEEP

DETAIL C FOR $\phi 0.313$ HOLES ONLY



DETAIL D



- ALS7-1032-130 INSERT (1)
AN3C4A BOLT (1)
AN960C10L WASHER (1)
(78 PLACES)

GASKET/WEARSHOE/WEARPAD (REF)

DETAIL E

- AN3C4A BOLT (1)
AN960C10L WASHER (1)
NAS1515H3L WASHER (1)
(2 PLACES)
INSTALL WITH SIKAFLEX-241/-291

D2646 CAP

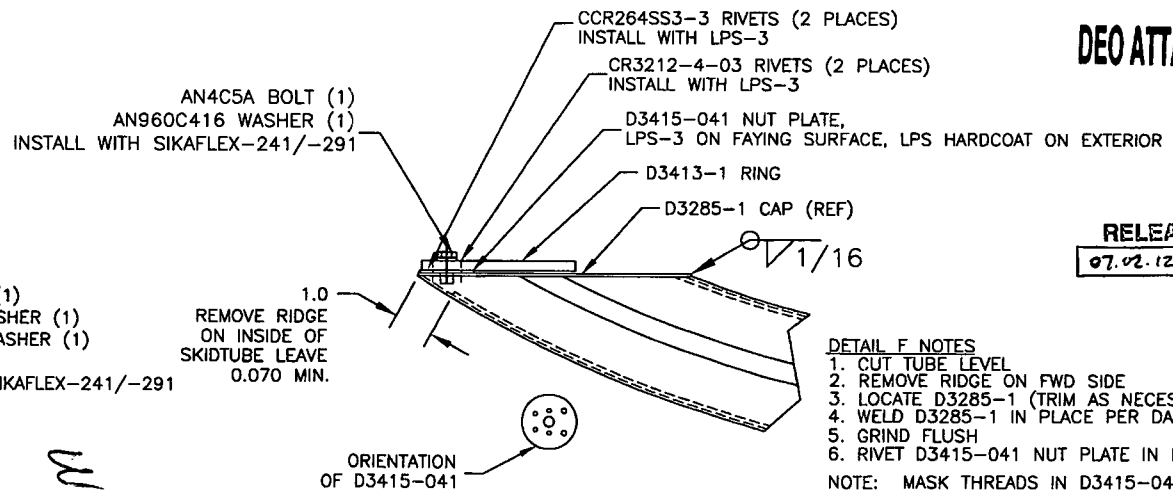
SEAL WITH
SIKAFLEX-241/291
ADHESIVE

$\phi 0.208$ (2 PLACES)
DRILL PRIOR TO INSTALLING
D2646 CAP

BORE OUT END OF SKIDTUBE
TO 0.75 DEPTH AND 0.070 WALL

0.400

DETAIL F: END FINISHING DETAIL



ORIENTATION
OF D3415-041

DEO ATTACHED

RELEASED
07.02.12

DETAIL F NOTES

1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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|---------|----------|----------|-------------------|-------------|--------------------------|
| DESIGN | CP | DRAWN BY | PH | DART | DART AEROSPACE USA, INC. |
| CHECKED | # | APPROVED | # | D3274 | PORT HURLOCK, MI |
| DATE | 06.12.19 | TITLE | SKIDTUBE ASSEMBLY | REV. D | SHEET 4 OF 4 |
| | | | | SCALE | 1:3 |

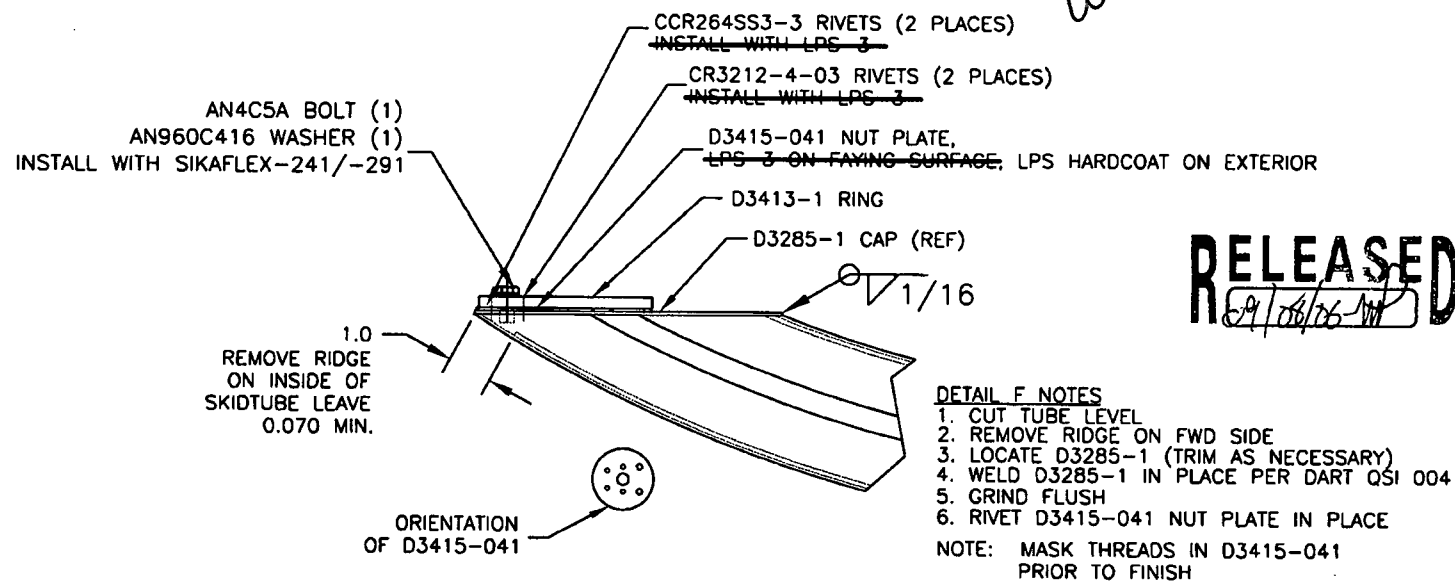
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|-----------------------|-------------------------------|----------------------------------|--|--|--------------------------------|---------------------------|--------------|
| DRAWING NO. D3274. | TITLE SKIDTUBE ASSEMBLY | REV. D | DART AEROSPACE USA, INC ENGINEERING ORDER | | D.E.O. NO. D3274-D-1 | SHEET NO. SHEET 1 OF 1 | SCALE NTS |
| DRAWN <i>UP</i> | CHECKED <i>[Signature]</i> | MFG. APPR. <i>[Signature]</i> | APPROVED <i>[Signature]</i> | | DE APPR. <i>[Signature]</i> | | |
| DATE 09.06.17 | DATE 09.06.23 | DATE 09/06/23 | DATE 09/06/23 | | DATE 09.06.23 | | |

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

NO 230

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 57356
Part number: D206-642-541
Description: flange tube
Welding Process: Tig ☒ Mig ☐
Base material: Aluminium
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Pat. Phil Date of Test Coupon 10.05.05

Welder Barclay Elliott Date of Test Coupon 10-05-05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld